

PATENT COOPERATION TREATY
PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
 (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference TO4009 PCT	FOR FURTHER ACTION	
		See Form PCT/IPEA/416
International application No. PCT/DE2005/000512	International filing date (<i>day/month/year</i>) 18.03.2005	Priority date (<i>day/month/year</i>) 18.03.2004
International Patent Classification (IPC) or national classification and IPC G07B15/02, G07C5/00, G01C22/00		
Applicant T-MOBILE INTERNATIONAL AG & CO. KG		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of _____ sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 7 sheets, as follows:
<input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
<input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s))
_____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:
<input checked="" type="checkbox"/> Box No. I Basis of the report
<input type="checkbox"/> Box No. II Priority
<input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI Certain documents cited
<input type="checkbox"/> Box No. VII Certain defects in the international application
<input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:

 - international search (Rule 12.3 and 23.1(b))
 - publication of the international application (Rule 12.4)
 - international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished
 the description:
 pages 1-16 as originally filed/furnished 17.01.2006 with letter
 pages* 2a received by this Authority on of 13.01.2006
 pages* _____ received by this Authority on _____
 the claims:
 nos. _____ as originally filed/furnished
 nos.* _____ as amended (together with any statement) under Article 19 17.01.2006 with letter
 nos.* 1-24 received by this Authority on of 13.01.2006
 nos.* _____ received by this Authority on _____
 the drawings:
 sheets 1/4-4/4 as originally filed/furnished
 sheets* _____ received by this Authority on _____
 sheets* _____ received by this Authority on _____
 a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. The amendments have resulted in the cancellation of:

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to sequence listing (*specify*): _____
4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages _____
 the claims, nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1–2 4	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1–2 4	NO
Industrial applicability (IA)	Claims	1–2 4	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)**1. Cited documents**

This opinion mentions the following documents (D) cited in the search report; the same numbering will be used throughout the procedure:

- D1: WO 03/063088 A (MOGID S.A; KELLER, PHILIP)
31 July 2003 (2003-07-31)
- D2: DE 100 32 409 A1 (GSI GESELLSCHAFT FUER SYSTEMTECHNIK UND INFORMATIK MBH) 8 February 2001 (2001-02-08)
- D3: DE 102 00 495 A1 (DEUTSCHE TELEKOM AG) 10 July 2003 (2003-07-10)
- D4: WO 01/11571 A (MANNESMANN AG; WIDL, ANDREAS; BARKER, RONALD; HERTLE, JOCHEN) 15 February 2001 (2001-02-15)
- D5: US 2001/037174 A1 (DICKERSON STEPHEN L) 1 November 2001 (2001-11-01)
- D6: US-A-5 970 481 (WESTERLAGE ET AL.) 19 October 1999 (1999-10-19)
- D7: WO 98/34199 A (RISING, ROLF) 6 August 1998 (1998-08-06)

2. Independent claims

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2.1 Claim 1 compared with D1

D1 discloses a method for operating an electronic toll system for traffic routes (abstract), in which

- a cellular mobile communication system comprising a multiplicity of mobile radio cells (figure 1),
- a toll terminal 1 in the form of a mobile telephone which is compatible with the mobile communication system (page 9, lines 7-14), and
- a toll centre (central computer/charging system) for handling the toll transaction between the toll customer and the toll operator are used. The method comprises the steps of
- registration of the toll customer with the toll centre using the mobile telephone before the start of a journey by transmitting an identification and booking a toll road by transmitting details relating to the planned route (current position/startling position in the road network; page 6, lines 21-25),
- recording and storage in the mobile telephone of lists of radio cells encountered during the journey (page 7, lines 18-24; page 13, line 21 - page 14, line 6 and page 17, lines 14-20); in this context, at least the last list contains a number of mobile radio cells encountered during the journey which is sufficient for later verification of the booked toll road (page 8, lines 16-19),
- transmission of a message from the mobile telephone to the central computer after the end of the journey, the message comprising a (the

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- final) list of recorded mobile radio cells
(page 8, lines 16-19),
- determination/verification of the booked toll road using the central computer/the charging point on the basis of a comparison between the transmitted list and data relating to tolled traffic routes (page 8, lines 20-23),
- billing of the toll charge to be levied on the basis of the determined/verified route booked (page 9, lines 3-6).

The subject matter of claim 1 of the present application differs from this in that the details relating to the planned route contain a journey destination.

From the field of travel tickets (to which D1 also expressly relates, *inter alia*), however, it is commonly known that the journey destination is also specified when a journey is actually booked. A person skilled in the art would therefore, on the basis of D1, consider it to be an obvious possibility for a journey destination also to be specified besides the starting position when booking.

On the basis of D1 and using the common knowledge, a person skilled in the art would therefore arrive at the subject matter of claim 1 of the present application without exercising an inventive step. This subject matter therefore does not meet the requirements of PCT Article 33(3).

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Furthermore, a person skilled in the art also knows, from D2, that specifying a route (including a starting position and a journey destination) and later checking it by means of position-finding using a radio telephone network is an alternative in electronic toll systems to flexible charge metering without prior indication of a journey destination (column 1, lines 56-62; column 2, lines 26-39; column 4, line 61 – column 5, line 30). A person skilled in the art would therefore, on the basis of D1 and taking into account the teaching of D2, arrive at the subject matter of claim 1 of the present application without thereby being inventive. For this reason too, the subject matter of claim 1 of the present application does not involve an inventive step as defined by PCT Article 33(3).

2.2 Claim 1 compared with D2

D2 discloses a method for operating an electronic toll system for traffic routes (abstract), using

- at least one cellular mobile communication system comprising a multiplicity of mobile radio cells (column 1, lines 56-62),
- a toll terminal 6 (telephone, identification unit) with the toll customer, in the form of a mobile telephone which is compatible with the mobile communication system (column 1, lines 56-62), and
- at least one toll centre 2, 4, 5 (booking computer, billing point, control unit) for handling the toll transaction between the toll

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<p>customer and the toll operator (column 4, lines 36-56),</p> <p>where the method comprises the following steps:</p> <ul style="list-style-type: none">- registration of the toll customer with the toll centre using the mobile telephone before the start of a journey by transmitting an identification (column 2, lines 20-25 and column 2, line 67 - column 3, line 13) and booking a toll road by transmitting details relating to the planned route, the details containing at least one starting point and a journey destination (because in one exemplary embodiment the desired route is indicated, see column 2, lines 32-33 and column 4, lines 20-23, for example),- recording and storage of a list of a number of radio cells encountered during the journey which is sufficient for later verification of the booked toll road (recording of a movement profile; page 1, lines 35-43),- verification of the booked toll road by the toll centre on the basis of a comparison between the movement profile and data relating to tolled traffic routes (column 2, lines 26-28 and column 4, lines 20-26),- billing of the toll charge to be levied on the basis of the booked route and prescribed tariff data (column 4, lines 61-65).	

The subject matter of claim 1 of the present application differs from this in that

- a) the list of radio cells encountered during the

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journey is recorded and stored in the toll terminal,
and

- b) a message is transmitted from the toll terminal to
the toll centre after the end of the journey, the
message comprising the list of recorded and stored
mobile radio cells.

The effect of these features is that the toll
terminal needs to make contact with the toll centre
only rarely. This solves the problem of reducing the
number of connections between the toll terminal and
the toll centre, which saves costs.

Initially collecting similar messages for this
purpose so as then to send them together all in one
go at a later time must be considered to be a purely
administrative measure (and also one which has been
known for a long time), however.

Since this does not solve a technical problem per se
and also the technical implementation of sending a
collective message must be considered to be a
routine measure (the application does not specify
any details regarding the technical implementation
either), the subject matter of claim 1 does not
involve an inventive step as defined by PCT Article
33(3) over D2 and the general knowledge of a person
skilled in the art (for the technical implementation
of purely administrative measures).

In this connection, it should be mentioned that the
recording and storage of encountered positions in

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the toll terminal and the transmission of appropriate movement profiles (i.e. the transmission of appropriate lists) by the toll terminal in connection with the levying of toll charges was also already general knowledge on the priority date for the present application (D1, page 8, lines 15-19; D3, abstract and passages cited in the search report; D4, claim 13 and passages cited in the search report). Whether such a collective message is provided cyclically, upon request by the toll centre or after the end of every journey does not inherently solve a technical problem, but rather merely reflects administrative considerations.

Hence, on the basis of D2 and taking into account the teaching of either D1, D3 or D4, a person skilled in the art would also arrive at the subject matter of claim 1 of the present application without thereby being inventive. For this reason too, the subject matter of claim 1 of the present application does not involve an inventive step as defined by PCT Article 33(3).

2.3 Claim 17

For reasons which correspond to those indicated in 2.1, the subject matter of claim 17 of the present application is not inventive in relation to D1 as defined by PCT Article 33(3). Similarly, the subject matter of claim 17 of the present application is not inventive on the basis of D2 as defined by PCT Article 33(3), for reasons which correspond to the arguments presented in 2.2.

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PCT/DE2005/000512Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****3. Dependent claims**

The additional features of claims 2, 6, 8, 12, 14, 15, 18-20, 23 and 24 are known from D1 for the same purpose as in the present application; these claims are likewise not inventive as defined by PCT Article 33(3).

The additional features of claims 2, 3, 12, 14, 15, 21, 22 and 24 are known from D1 for the same purpose as in the present application; these claims are therefore likewise not inventive as defined by PCT Article 33(3).

The additional features of the remaining dependent claims are, provided that they are not known from the documents cited in the search report as being able to be used for the same purpose as in the present application, either known generally to a person skilled in the art or relate to the routine implementation of purely administrative aspects of toll levying (such as billing using the mobile radio invoice for the toll customer) and therefore do not involve an inventive step.

4. Industrial applicability:

The industrial applicability of the invention is obvious.

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

5. Clarity/Interpretation

- 5.1 It is not clear what is meant by the wording "number of mobile radio cells encountered during the journey which is sufficient for later verification of the booked toll road" in claim 1 and "number of mobile radio cells which are encountered and recorded by the toll terminal during the journey which is sufficient for later verification of the booked toll road" in claim 17. The description also does not reveal what is meant; on the contrary, in accordance with the description, all mobile radio cells encountered during the journey are recorded and stored (see page 9, "recording of the encountered radio cells and reporting of a list of the recorded radio cells" or page 14, "during the journey, the terminal records and stores the radio cell identifications of all encountered mobile radio cells", for example). This infringes PCT Article 6.
- 5.2 According to claim 1, the list of recorded radio cells is transmitted to the toll centre after the end of the journey. This is contrary to page 9 of the description, according to which reporting can also be made at regular intervals or upon request. This is an infringement of PCT Article 6.
- 5.3 The dependencies in the set of claims do not meet the requirements of PCT Article 6 for the following

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reasons:

Claim 8 should be dependent only on claims 6 and 7, since reference is made to the intermediate control points. Claim 9 should be dependent only on claim 3 in conjunction with either claim 6 or 7, since reference is additionally made to the toll coupon. Claim 10 should refer only to claim 3 in conjunction with 6 or 7 or to claim 9 for the same reason. Claim 11 should refer only to one of claims 3, 9 and 10, since the toll coupon is mentioned. Claim 15 is permitted to refer only to claim 14, since only there is the position-finding mentioned. For the same reason, claim 16 is permitted to refer only to claim 14.

- 5.4 It is not clear to what extent the booking information from claim 21 corresponds to the details from claims 1 and 17. This is an infringement of PCT Article 6.